

Application No.: 10/714,090
Amendment dated: June 26, 2007
Reply to Office Action of February 26, 2007
Attorney Docket No.: 22176.25 (ITW-14378)

b.) Remarks

Claims 1-12 and 14-20 are pending in this application. Claims 1-9 and 14-20 are withdrawn from consideration. Claims 10-12 are rejected. Turning now to the merits:

Rejection of Claims 10 and 12 Under 35 U.S.C. 103(a)

Claims 10 and 12 were rejected under 35 U.S.C. 103(a) over Ogawa et al. (U.S. Patent No. 5,861,605) in view of Nemoto (U.S. 3,855,015). The Office Action stated that Ogawa discloses a fluxed core wire with a core containing Al_2O_3 , CaCO_3 , CaF_2 , MgO , Na_2O_3 and other compounds and elements, a flux ratio that ranges from 23 to 25 wt % and combined amounts of Al_2O_3 and Na_2O_3 are about 1.5 wt %. Furthermore, the Office Action then stated that Nemoto discloses the submerged arc welding of a steel product and that the flux used in the welding has a certain composition.

This rejection is respectfully traversed for the following reasons.

For an obviousness rejection to be proper, the Patent Office must meet the burden of establishing a prima facie case of obviousness. The Patent Office must meet the burden of establishing that all elements of the invention are disclosed in the cited publications, which must have a suggestion, teaching or motivation for one of ordinary skill in the art to modify a reference or combined references.¹ The cited publications should explicitly provide a reasonable expectation of success, determined from the position of one of ordinary skill in the art at the time the invention was made.² As argued below, this burden has not been met.

The Nemoto patent cited by the Patent Office discloses a work roll for hot rolling, which roll has a body portion and a surface of that body portion. The whole surface of the

¹ *In re Sang Su Lee*, 277 F.3d 1338, 61 USPQ2d 1430 (Fed. Cir. 2002).

² *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir. 1988); *In re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970);

Amgen v. Chugai Pharmaceuticals Co., 927 U.S.P.Q.2d, 1016, 1023 (Fed. Cir. 1996);

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body portion is made of a weld metal (Col. 2, lines 30-36). There is no disclosure in Nemoto of a weld wire which is tubular and which composes a sheath and a core. In fact, the word "core" is not mentioned even a single time in the disclosure of Nemoto. Which is logical, because no cored wire is used in the Nemoto welding process. The composition of the flux, which is cited in the Office action (Col. 11, lines 24-29 of Nemoto), has nothing to do with a composition of a wire used for welding. As described with regard to Fig. 3, the flux is sprinkled between the two bars to be combined with each other.

"Two bar materials, which were individually 32 mm. in diameter and 300 mm. in length, were so arranged as shown in FIG. 3, and were combined with each other by welding the two at portions distanced by 50 mm. from both ends. Subsequently, a flux and powders of alloying elements were sprinkled over the uncombined portions and melted by application of high frequency, and the bar materials were welded with each other according to submerged arc welding using a wire which had been processed in diameter to 4 mm." (Col. 6, lines 55-64, emphasis added).

That flux is external to the wire, it is sprinkled onto the uncombined portion of the bars *after* the welding with the welding wire, which is not even a cored wire.

The composition of the wire used for welding is disclosed in Col. 11, lines 15-25:

"The formation of the weld metal on the surface of the body was carried out in such a manner that according to submerged arc welding a wire of 4 mm. in diameter, which was composed of 0.59 wt% of C, 0.18 wt% of Si, 0.30 wt% of Mn, 0.008 wt% of P, 0.021 wt% of S, 5.33 wt% of Cr, 1.48 wt% of Mo, 1.10 wt% of V, 0.21 wt% of Ti and the balance of Fe, was spirally welded around the body, while rotating the body, under the conditions of a welding current of 600 A, an arc voltage of 30 V and a welding rate of 35 cm/min."

No non-metallic compounds, including Al_2O_3 and Na_2O_3 , are disclosed in Nemoto. It is clear that nothing in Nemoto even remotely relates to a SAW process with a cored wire of the composition of Al_2O_3 and Na_2O_3 as claimed in Claim 10.

Thus the combination of the Ogawa and Nemoto patents do not disclose a core comprising one or more non-metallic compounds selected from the group of non-metallic compounds consisting of Al_2O_3 , Na_2O_3 , MgCO_3 , MgAl , CaF_2 , CaCO_3 , MgO and

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combinations thereof, wherein the total percentage of one or more non-metallic compounds in the core composition ranges from about 1% Wt to about 30% Wt and wherein the non-metallic compounds are Al_2O_3 and Na_2O_3 with the total percentage of 14% Wt., as claimed in Applicant's Claim 10.

Furthermore, in contrast to Applicant's claimed tubular weld wire, which comprises a core formulated for submerged arc welding, there is nothing in the cited combination of Ogawa and Nemoto that addresses or contemplates this type of weld wire electrode.

Nor does the combination of Ogawa and Nemoto disclose the additional features set forth in Applicant's Claim 12.

Therefore, Claims 10 and 12 meet the requirements of 35 U.S.C. 103(a) in view of the combination of Ogawa and Nemoto patents. Therefore, the 103(a) rejection of Claims 10 and 12 should be withdrawn, Claims 10 and 12 should now be allowed.

Rejection of Claim 11 Under 35 U.S.C. 103(a)

Claim 11 was rejected under 35 U.S.C. 103(a) over Ogawa and Nemoto further in view of Arikawa et al. (U.S. Patent No. 3,531,620).

This rejection is respectfully traversed for the following reasons.

As it has been asserted above, the combination of the Ogawa and Nemoto patents does not disclose each and every element of the invention as claimed in independent Claim 10. In particular, no disclosure of the core having the non-metallic compounds, such as Al_2O_3 and Na_2O_3 with the total percentage of 14% Wt., as claimed in Applicant's Claim 10, which is the base claim for Claim 11. No disclosure in Arikawa teaches that element of Claim 11 either.

Therefore, the Patent Office has failed to establish a prima facie case of obviousness and Claim 11 meets the requirements of 35 U.S.C. 103(a) over the Ogawa and Nemoto patents in view of the Arikawa patent.

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Applicants believe that the present application is in condition for allowance. A Notice of Allowance is respectfully solicited. Should any questions arise, the Examiner is encouraged to contact the undersigned.

Respectfully submitted,

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